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An Essay on Egyptian Mummies; with Observations on the Art of Embalming among the ancient Egyptians. By A. B. Granville, M.D. F.R.S. F.L.S. F.G.S. M.R.I. one of His Royal Highness the Duke of Clarence's Physicians in Ordinary, &c. &c. Read April 14, 1825. [*Phil. Trans.* 1825, p. 269.]

The mummy described in this paper was purchased at Gournou; it was in a single case of the usual form, and covered with cere cloth bandages, very neatly and dexterously applied, and among which both cotton and linen were recognised. These, to the amount of 28 pounds avoirdupois in weight, having been removed, the body was discovered to be that of a female. The abdominal integuments were remarkably wrinkled, and the whole surface of a dark brown colour and dry, but in many places soft to the touch, and with the exception of a few parts, entirely deprived of cuticle. The height of the mummy from the vertex of the head to the inferior surface of the calcaneum was 5 feet $\frac{7}{8}$ inch, and the principal dimensions of the several parts correspond with those which are usually considered as giving rise to the utmost perfection of female form in the European race, neither was any trait of Ethiopian character discernible in the form of the cranium; all which, observes Dr. Granville, supports Cuvier's opinion respecting the Caucasian origin of the Egyptians.

The author then proceeds to a brief summary of the present state of our information respecting Egyptian mummies, attributing its scantiness and imperfection to the rarity of perfect specimens, nearly all the mummies hitherto described, presenting little else than imperfect skeletons enveloped in bandages, sometimes covered by the dry skin.

In proceeding to examine the present specimen, the integuments and muscles of the abdomen were first removed, and the contents of that cavity carefully inspected. They consisted of a portion of the stomach adhering to the diaphragm, the spleen attached to the suprarenal capsule of the left kidney, and the left kidney itself, with the ureter descending into the bladder, which with the uterus and its appendages were observed *in situ*, the latter exhibiting marks of disease. Fragments only of the intestinal tube were discoverable; and there were a few lumps of resin, of a compound of clay and bitumen, and a few pieces of myrrh. The right kidney, the liver, and minor glands were missing, but the gall-bladder was detected among the loose fragments of membranes and other soft parts, together with remains of its own ducts. The soft parts of the pelvis were then particularly examined, and the perfect condition of the muscles, membranes, and ligaments particularly noticed. The cavity of the thorax was next examined, by detaching the diaphragm, to which part of the pericardium adhered; and the heart, in a very contracted state, was afterwards found suspended by its vessels, and attached to the lungs, which adhered to the ribs.

Upon the examination of the cranium, it was evident that the brain had been removed through the nostrils, from the lacerated condition

of the inner nasal bones, the eyes appear not to have been disturbed, the tongue was entire, and the teeth white and perfect.

Dr. Granville next proceeds to draw some conclusions as to the age at which this mummied female died, and respecting the disease which destroyed her. The bones of the ileum exhibit that peculiar thinness of their osseous plates which show the individual to have exceeded her fortieth year, and to have borne children; and as there are no characters of age or decrepitude about the skeleton, the author considers her to have been about fifty. The ovarium and broad ligament of the right side were enveloped in a mass of diseased structure, while the Fallopian tube of the same side was sound; but the uterus itself was larger than natural, and the remains of a sac were found connected with the left ovarium; all which, connected with the appearance of the abdominal integuments, leave no doubt of ovarian dropsy having been the disease under which the individual suffered.

The author concludes this communication with some observations respecting the method of embalming generally, and the nature of the substances employed in the process, from the details of which he draws the following conclusions:—

The abdominal viscera were more or less perfectly extracted, either through an incision on one side of the abdomen, or, as in the present mummy, through the anus. The thoracic cavity was not disturbed. The contents of the cranium were removed sometimes through the nostrils, and in others through one of the orbits. The body was then probably covered with quick-lime, to facilitate the removal of the cuticle, the scalp and nails being, however, left untouched; after which, it was immersed in a melted mixture of wax, resin, and bitumen, until thoroughly penetrated; and ultimately subjected to a tanning liquor, probably made with the saline water of the neighbouring natron lakes. The bandages were applied with the occasional interposition of melted resin, or wax and resin, the lumps of resin, myrrh, &c., having been previously placed in the abdomen.

On the temporary Magnetic Effect induced in Iron Bodies by Rotation.
In a Letter to J. F. W. Herschel, Esq. Sec. R.S. by Peter Barlow,
F.R.S. Communicated April 14th, 1825. Read May 5, 1825.
 [Phil. Trans. 1825, p. 317.]

The author's attention having been recalled to the consideration of the effects of rotation in altering the magnetic influence of iron, in the course of speculations on the cause of the rotation of the earth's magnetic poles; and knowing, at the same time, that Mr. Christie had found a permanent change in the magnetic state of an iron plate, by mere change of position on its axis, it seemed to him highly probable that this change, due only to a simple inversion, would be increased by rapid rotation. On trial, however, it was found that the effect produced was merely temporary. The experiments at first were made with a 13-inch mortar shell, fixed to the mandrel of a